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NOTES ON GEOGRAPHIC DISTRIBUTION

Expansion of the geographical distribution of *Trachycephalus typhonius* (Linnaeus, 1758) (Anura: Hylidae): First record for the state of Rio Grande do Sul, Brazil

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ABSTRACT: We report the first record of *Trachycephalus typhonius* for the state of Rio Grande do Sul, Brazil, based on individuals found in the municipalities of Roque Gonzales and Salvador das Missões. The original vegetation of these municipalities is characterized as Mesophytic Semideciduous Forest (Atlantic Domain), currently replaced by agricultural activities and urbanization. This record expands the geographical distribution area of this species by approximately 270 km from the nearest known locality, Iguazú, Misiones province, Argentina.

The genus *Trachycephalus* Tschudi, 1838 consists of 12 species belonging to the family Hylidae (Frost 2011), and has only one morphological synapomorphy, the presence of paired lateral vocal sacs, which protrude posteriorly to the angles of the jaws when inflated (Faivovich *et al*. 2005).

Trachycephalus typhonius (Linnaeus 1758) (Figure 1) was previously recognized as *Trachycephalus venulosus* (Laurenti 1768). However, the complex confusion on the identity of *Rana typhonia* was recently solved by Lavilla *et al.* (2010), which considered this species as an older synonym of *Rana venulosa. Trachycephalus typhonius* has wide geographical distribution, including Central America (southern Mexico) and South America (La Marca *et al*. 2010). In the latter, this species occurs throughout the Amazon basin to northern Argentina, and in Brazil it is recorded from the Amazon to Paraná (Frost 2011).

In February 2011, a female *Trachycephalus typhonius* was collected in a swamp environment in the municipality of Roque Gonzales (28°07'53" S, 55°01'53" W; 157 m elevation), and another specimen was recorded (identified and released) inside a human dwelling in the municipality of Salvador das Missões (28º04'35.2" S, 54º50'36.6" W; 209 m elevation), both located in the northwest of Rio Grande do Sul (SISBIO/RAN #29509-1). The predominant vegetation of these areas is characterized as Mesophytic Semideciduous Forest of Atlantic Domain (Oliveira-Filho pers. com.), in transition area with the natural grasslands of the Pampa biome (IBGE, 2004). Nowadays, the natural vegetation has been widely replaced by agricultural activities and urbanization. The climate is characterized as humid subtropical with dry summers (ST UM v), according to the classification of Maluf (2000). The specimen collected was deposited in the Zoological Collection of the Universidade Federal de Santa Maria (ZUFSM 4415). Three additional specimens of *T. typhonius* (two males and one female) were found deposited in the Collection of the Museu de Ciências Naturais da Fundação Zoobotânica do Rio Grande do Sul (MCN 10326-28), and were collected in 1979 at the campus of Pontifícia Universidade Católica do Rio Grande do Sul. In spite of these three specimens also presenting morphological features typical of *T. typhonius*, we have doubts on the reliability of data collection and prefer not to consider them as valid records of occurrence.

FIGURE 1. Female *Trachycephalus typhonius* of Roque Gonzales (ZUFSM 4415), Rio Grande do Sul state, Brazil. Photo by Vinícius Matheus Caldart.

These new localities constitute the first record of *T. typhonius* for the state of Rio Grande do Sul, Brazil, extending the geographical distribution area of this species by approximately 270 km from the nearest known locality, Iguazú, Misiones province, Argentina (Kwet and Solé 2008) (Figure 2).

In the state of Rio Grande do Sul two other species of *Trachycephalus*, *T. mesophaeus* (Hensel 1867) and *T. dibernardoi* (Kwet and Solé 2008), are also recorded. *Trachycephalus typhonius* presents remarkable polymorphism, ranging from broad dark longitudinal

blotch to transversally divided or uniform/spotted patterns (see color patterns in Cei 1980). *Trachycephalus mesophaeus* presents as the main morphological differences from *T. typhonius* the absence of cross-bars on limbs, the greenish gray to dark brown colors, still having some shades of yellow with bright dorsolateral bands varying in width, and brightness and shape of the dark edges (Lutz 1973). *Trachycephalus dibernardoi* presents a greenish coloration with a remarkable distinct ocellus pattern, absent in *T. typhonius* (Kwet and Solé 2008). The authors also emphasized that *T. dibernardoi* differs from *T. venulosus*, the latter species presenting highly glandular dorsal and ventral skin including a well-developed parotoid in the head and neck region. In addition, the distribution of *T. typhonius* is related to Seasonal Forests of Atlantic Domain, Cerrado Savannah and Amazonian Forest, while *T. mesophaeus* occurs in the Atlantic Rain Forest, and *T. dibernardoi* is associated with the Araucaria Forest (Kwet and Solé 2008, Lavilla *et al.* 2010, Frost 2011). The occurrence of *T. typhonius* in Rio Grande do Sul was expected since it is a widespread species that can be found in a diverse number of habitat types from natural savannahs and forests to disturbed habitats, such as plantations and human dwellings (La Marca *et al.* 2010).

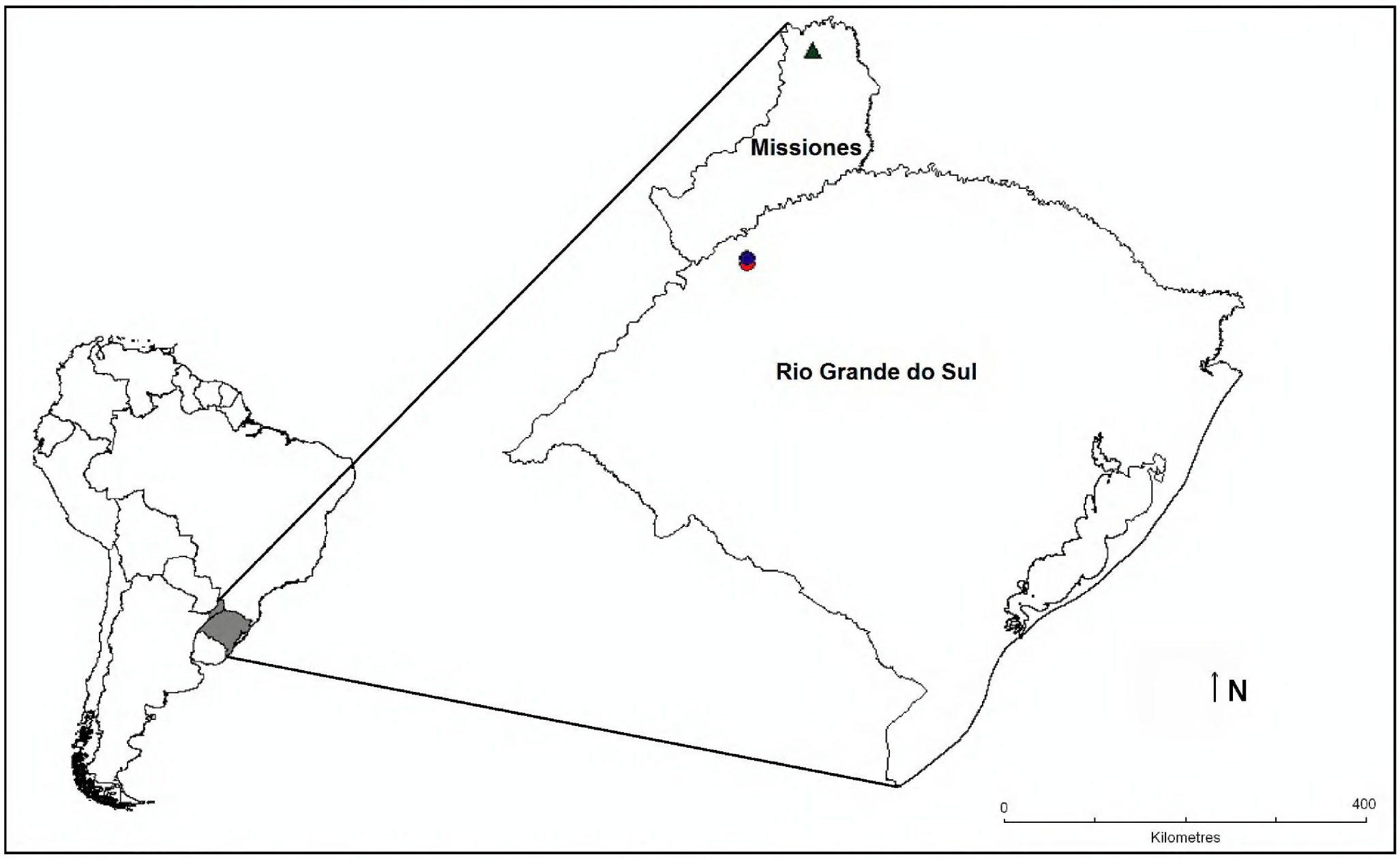

FIGURE 2. New records of *Trachycephalus typhonius* from the municipalities of Roque Gonzales (blue circle), and Salvador das Missões (red circle), Rio Grande do Sul state, Brazil. The green triangle indicates the nearest known locality: Iguazú, Misiones province, Argentina.

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